Arctic Indigenous Climate Summit Report
June 10-14, 2019

Gwich’in Steering Committee
Mahsi’ Choo to the community of Gwich’yaa Zhee (Fort Yukon) for opening their doors and hosting us, and to the Gwich’in Nation and allies for more than 30 years of dedication in protecting the Arctic Refuge.
ARCTIC INDIGENOUS CLIMATE SUMMIT OFFICIAL REPORT
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Stephen Frost, Sr. was Vuntut Gwich’in from Old Crow, Yukon Territory, Canada. Stephen was a very honorable and humble Elder known throughout the Gwich’in Nation as a bold and outspoken leader. He lived the traditional lifestyle all the way until his passing. At the age of 87 he traveled from Old Crow, Canada to Fort Yukon, Alaska (a challenging 12-hour journey by boat along the Porcupine River) to the first Arctic Indigenous Climate Summit on June 10-14th 2019 to tell our people “Enough with the talking it’s time to get active.” Stephen was born in Old Crow to Harold and Clara Frost. He met the love of his life Ethel and they stayed married for 58 years and had 11 children. It was a true honor to know Stephen. He could brighten any room and he always had stories to tell.

“We grew up with our dad calling us Dearly Beloved, those words were pretty special. Last summer I went up to Old Crow to spend three months with him, what an honorable man, he cared about everyone. When he had a chance to go on a riverboat trip to Fort Yukon, it was for the Arctic Indigenous Climate Summit gathering, I went with him. It was a beautiful trip, and I was so darn proud to have taken him, I think we knew it was going to be his last. I will remember that trip forever.” – Carol Patterson, daughter of Stephen Frost, Sr.
Founded in 1988, the Gwich’in Steering Committee is the unified voice of the Gwich’in Nation speaking out to protect the Coastal Plain of the Arctic National Wildlife Refuge. We call the Coastal Plain “Iizhik Gwats’an Gwandaii Goodlit” — “the Sacred Place Where Life Begins.” We are caribou people. We rely on the Porcupine Caribou and the Porcupine Caribou rely on the Coastal Plain of the Arctic Refuge as their calving and nursery grounds. Protection of the birthing and nursery grounds on the Coastal Plain is a human rights issue for the Gwich’in Nation. The caribou are the foundation of our culture and our spirituality — they provide food, clothing, and tools, and are the basis of our songs, stories, and dances. The ancestral homeland of the Gwich’in and the migratory route of the caribou are nearly identical. The spiritual connection we have with the caribou is very real. The survival of the Gwich’in depends on the survival of this herd.

Our Elders recognized that oil development in the Porcupine Caribou herd’s calving and nursery grounds was a threat to the Gwich’in people. That is why, in 1988, our Nation came together for the first time in over a hundred years for a traditional gathering. At this gathering we decided we would speak with one voice in our work to protect the Coastal Plain. Our Elders directed us to “do it in a good way.” Every two years at the biennial Gwich’in Gathering, the Gwich’in Nation re-affirms its position and commitment to this issue. Following the guidance of our Elders, the Gwich’in Steering Committee has worked for over three decades to protect this sacred place so that our people have a future in our homelands.
INTRODUCTION

In June 2019 the Gwich’in Steering Committee hosted the Arctic Indigenous Climate Summit in Gwich’yaa Zhee (Fort Yukon), Alaska. The purpose of the event was to gather Gwich’in and other Indigenous leaders and allies to discuss the threats posed by climate change to food security and the Gwich’in way of life. The Summit provided an opportunity for people from different communities to gather and share knowledge and work together toward solutions.

The three-day event brought together Elders and other Indigenous scientists, hunters and fishers, Tribal chiefs and community leaders from across Alaska and the United States. These experts shared critical Indigenous knowledge of environmental and ecological systems and recent changes happening in those systems. The last day of the Summit was facilitated by the Alaska-based organization Native Movement. Their representatives led workshops on the continued legacy of colonization and on community-organized healing and resistance.

The purpose of this report is to feature the Indigenous knowledge and testimonies that were shared at the Summit. In some cases, speakers’ testimony has been edited. All materials are available in full at the Gwich’in Steering Committee office. The report gleans climate and water data from publicly available repositories. These data are included to establish multiple, converging sources and representations of climate change in the region, though the climate records from Interior Alaska kept by non-Indigenous entities are sparse and relatively short. Indigenous knowledge and environmental data converge on the same story of changing weather patterns, thawing ground, and ripple effects on ecosystems near and far. The Arctic is a region of rapid change, with consequences for all life on Earth.

To all who shared knowledge, stories, experience, and support – Mahsi’choo, thank you very much.
EXECUTIVE SUMMARY

Climate change poses serious threats to food security for Indigenous peoples across Alaska. In some cases, changing environmental conditions have made hunting and fishing more dangerous. In others, the migratory patterns of animals have shifted, affecting their locations and timing of movements. These changes are more than a threat to food security - they present unjust and severe challenges to many Indigenous cultures’ long-proven, adaptive ways of flourishing.

“We must protect the resources that people rely on.”
Gwich’in Elder Hannah J. Solomon, wife of the late Jonathon Solomon

For the Gwich’in, the health of the people - the ability to survive and thrive and to adjust to the rapidly changing climate in the North – is inextricably linked with the health of the Porcupine Caribou Herd. Now that herd faces another threat from oil and gas development. The existing network of oil and gas infrastructure on the North Slope is already affecting other caribou herds. Some politicians and oil companies are eager to drill in the Coastal Plain of the Arctic National Wildlife Refuge, the calving grounds of the Porcupine Caribou Herd – iizhik Gwats’an Gwandaii Goodlit. In 2019, attendees of the Arctic Climate Indigenous Summit stood in solidarity with the Gwich’in in their leadership and fight to protect this land.

“Climate change is affecting us. I want to work with people, I want to figure out what people want to do.”
Tom Kriska, hunter and fisher

During the Summit, several themes emerged regarding recommendations and next steps. Many speakers expressed a desire for collaboration and unity and Indigenous-led solutions. There was interest in additional gatherings on the land to bring together northern communities and allies to learn from each other and work together on solutions.
**KEY OBSERVATIONS**

“We are Gwich’in people that never give up. We must stand together and go forward no matter what is happening around us.” - Gwich’ya Zhee Tribal Government First Chief Nancy James

**Hunting And Fishing**
The effects of climate change are creating increased hazards and dangerous conditions for people who go out on the land to hunt and fish. This includes thin and unstable river ice, changing timing of bird and animal migration, unpredictable animal behavior, dangerous travel due to permafrost thaw and erosion, and volatile weather patterns.

**Caribou**
In regions of heavy oil and gas infrastructure, caribou have been observed to be unhealthy if present, and others such as the Central Arctic herd have changed migratory patterns and behaviors to avoid roads and pipelines.

The Porcupine Caribou Herd is currently the only Arctic Alaska herd that has not seen a decline in population in recent years.

**Moose**
People are relying more on moose in some areas because of the loss of caribou due to oil and gas development and other factors.

Moose are migrating to different areas.

Moose are observed to have lower survival rates and the animals to be smaller in some areas.

**Salmon**
Water temperatures in the Yukon River and its tributaries are staying above levels that cause heat stress in most salmon species for longer, and reaching temperatures that are fatal to many salmon species. (A month after the Summit in 2019, high temperatures led to a massive salmon death event in the Koyukuk and other rivers.)

King salmon are vital along the Yukon River. Limited access to King salmon fishing due to low numbers is negatively impacting communities.

The location of salmon spawning areas on the Yukon River have changed due to high water temperatures.

**Birds**
Numbers and migration patterns of geese and ducks that nest in the Arctic tundra are changing, leading to very low numbers in some areas and high numbers in others. This impacts access for hunters who rely on this food source.

**Permafrost and erosion**
Along the Yukon River, increased river bank erosion and mudslides are leading to changes in water quality.

Thawing permafrost, which releases mercury into the watershed, may lead to increased levels of mercury in Yukon salmon, with potential harmful health impacts for the people who rely on that salmon.

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Photo: Keri Oberly
(A recent study estimates that mercury levels in Yukon salmon may exceed levels for safe human consumption as soon as 2050 if nothing is done to address greenhouse gas emissions.)

In northern Alaska, near Utqiaġvik, the coastline has eroded up to a mile inland in some places.

Homes in numerous villages along the Yukon River and on the northern coasts were reported to be currently, or at imminent risk of, falling into the water. Funding for relocation is insufficient.

**Environmental conditions**

On Interior Alaska rivers, water temperatures have increased, and water levels are changing. The Yukon and Tanana Rivers are breaking up earlier in the spring, and freeze up has been unpredictable in some years. Air temperatures have increased across Interior and northern Alaska. Shoulder season weather is becoming volatile, confusing birds and animals that move according to the weather patterns.

Changing weather has led to mismatches in the phenological indicators that people have relied on for generations to predict the movement of species and availability of resources, making the indicators no longer reliable.

**Oil and gas infrastructure**

Oil and gas development and the associated infrastructure is detrimental to caribou health and has caused changes to migration routes and behavior.

Massive oil and gas infrastructure in the north is significantly impacting the health of humans and animals in northern communities such as Nuiqsut. Observed health impacts include high incidences of cancer, asthma and other respiratory issues.
INDIGENOUS SPEAKERS

GWICH’YAA ZHEE
NANCY JAMES
Gwich’ya Zhee Tribal Government First Chief

“First of all, in my language I said welcome. We are surrounded by beautiful land and community. I want to welcome all of you that came from a long distance. Speak up about what’s going on around you, because if we don’t speak up about what’s going on around us today, it will affect a new generation. They need to be aware. These changes are about it’s happening so fast it’s hard to keep up with. But it’s really happening right in front of us. This is what our Elders told us is gonna happen around us, and we see it today. We must talk about protection, and be good stewards of the land, the resources and animals that’s been given to us, and protect our fishing and hunting. The biggest thing that’s happening now is the regulation on the ceremonial moose hunt during potlatch. Things are happening so fast in regulations, and I’d like to thank the Gwich’in Steering Committee, and Bernadette, for taking that issue. Thirty, forty years is a long time, and they [Gwich’in Steering Committee] have done it with unity from beginning until a continuation. Don’t give up. We are Gwich’in people that never give up. We must stand together and go forward no matter what is happening around us. And I welcome everyone here, and thank you for coming to Gwich’ya Zhee, enjoy yourself.”

Temperatures have risen dramatically across Alaska, with four of the past five years (statewide averages of 2015-2016, 2018-2019) warmer than any year prior to 2014 since record keeping began. This graph shows yearly-averaged temperature at Gwich’ya Zhee, AK, and the red line is a 5-yr moving average. Data from the NOAA NCEI Integrated Surface Database; accessed through the IMIQ Data Portal.
“For thousands of years, we lived off this land. We know all about it. We know how these different things that are occurring, like different weather, is affecting our way of life. We need to talk about that. I’m talking to our [Gwich’in] people here, about the impact of what’s going on. We need to stand behind each other on these things that come before us.

Across the river here, when you fly in you’ll see a big lake, we call it 12 Mile Lake, and if you look down from there you’ll see lakes that are all dried up now. That’s where people used to go to get their muskrats. We’d paddle 16 miles down the way, from lake to lake to lake. It’s not there anymore. The [Yukon] River, you can see it out there, it’s getting more and more shallow. A friend of mine from down in Beaver, he said several years ago he was trapping. He said for the first time in his life he used a four-wheeler to go check his trampoline cause of lack of snow. So we know, we know what’s going on. We know how it’s impacting us. We need to tell that story. We need to. The powers that be, those people that don’t think there’s such a thing as climate change, like Donald Trump and the rest of that crowd, I mean how would he know about climate change when he’s sitting in a mansion, and doesn’t even walk on the land? Those are the people that we need to educate. Those are the type of people that we need to let them know how climate change, how Arctic National Wildlife Refuge development, all these things are going to have a serious impact on our people’s way of life. It’s just that simple. And we need to develop strategies to

Permafrost temperatures across the Alaskan Arctic are increasing at a rate of 0.1 to more than 1°C per decade (measured at the depth where there is no seasonal change in temperature, approximately 15 m below the surface) Data in this figure are from the UAF Geophysical Institute Permafrost Laboratory.
conquer that stuff. Our Traditional Chief, David Solomon, told me many moons ago: never underestimate an Athabascan because they know more than you think. And that’s true. Absolutely the truth.

So you know, we need to tell the story, we need to develop a strategy as to how to best defend these important things that affect our way of life. People call it ‘subsistence’, the government, and politicians. That doesn’t describe our way of life. That’s some word somebody invented. And you know, for years and years and years, we’ve been battling the government, state government, US government, congress, the legislature, and we’ve made some headway along the way. But we’ve got much more to do. So later on, you’re going to hear from people that can tell that story that I’m talking about, that can tell that story about how it is to live off the land.

With that, I’d just like to welcome you all to Gwich’yaa Zhee. Home of the Gwich’yaa Gwich’in people. We’re all connected here in the Yukon Flats. Arctic Village, Venetie, Chalkyitsik, Birch Creek, Beaver, Circle, we’re all connected here. And this land that surrounds this place, we’re on a Refuge, and we’re considered “inholders.” Land that our people have used for centuries. We should own all this land. Every bit of it. And it can be documented, where people have trapped, where people fish, etc. But today, we live on a Refuge and we’re called “inholders.” The other thing I want to share is, we’re the only Tribe that I know of, that has transferred their corporate lands, half the entitlement of the corporate lands, to the Tribe. That’s powerful stuff from my point of view. We have land that the Tribe owns today.”
“My name’s Michael Peter, I’m the Gwich’yaa Zhee Tribal Government Second Chief. I also sit on the Yukon River Intertribal Fish Commission[]. What [land and resources] we got left we’re trying to preserve for our future generations. I’d like to recognize the Elders that are here, also our local Tribal members. Also our youth, cause they’re the ones that are gonna be taking on the fight. We’re not gonna be here forever to do it. But now is the time that we need to start teaching them what we know. Also, my daughter Lacy. She had two older brothers but they don’t wanna move. She’s the only one, pretty much, that shows up to a lot of meetings when I go. So, I’m sure that shows you what direction she’s going in. Also I’d like to welcome you to Gwich’yaa Zhee, enjoy your stay. **You know, it’s beautiful here. What’s not to fight for?** When you look around.”

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*Winter temperatures in interior Alaska between 2014 and 2018 were over 2.8°C warmer than the 1981-2010 average.* The above graph shows monthly averaged winter temperatures and the linear trendlines. The data were acquired from NOAA NCEI Integrated Surface Database, accessed through the IMIQ Data Portal.
BERNADETTE DEMIENTIEFF
Executive Director, Gwich’in Steering Committee

“The survival of the Gwich’in depends on the survival of this [the Porcupine caribou] herd. For thousands of years, we migrated with the caribou. We settled along the migratory route so we could continue to live and thrive with the caribou.”

“Right now, Alaska, we’re thawing at three times the rate of the rest of the world. We have 33 coastal communities dealing with erosion, falling into the ocean. We have two communities that are being forced to move right now. We have ticks, something that we’ve never had before. Our lakes are drying up. I know we adapt, but this is too quick. It’s too much. It’s stressing our animals, which is a threat to our way of life, to our survival.”

“The climate emergency in the Arctic threatens our food, our water, and our future.”

[In the Gwich’in Steering Committee position] I really learn along the way and I utilize my leaders. The leaders, and everybody here in Fort Yukon, they don’t even realize that the knowledge that they have is so valuable. I don’t ever make decisions on my own. The Gwich’in Steering Committee belongs to the Gwich’in Nation and we all stand united to protect the calving grounds [of the Porcupine caribou herd]. Even when I didn’t fully understand

Members of the Gwich’in Steering Committee International Youth Board.
Photo: Bernadette Demientieff
what that meant I still knew in my heart, I knew that’s what I had to do is protect this place. That is our spiritual connection. It is all interconnected, the land, the water, the animals, it’s all connected to our identity as Gwich’in. We will fight until the first oil rig goes in and we will continue to keep fighting because giving up is not an option. We’re never gonna stop defending the calving grounds. Our ancestors, they told us to go out and tell the world that we’re here, do it in a good way and do not compromise our position. They didn’t tell us to see what we could get out of it they told us to protect it and that is what my goal is.”

Our Creation story tells us that we made a vow with the Porcupine Caribou herd, that we would always take care of each other. They’ve been providing for us for thousands of years. Now it’s our turn to protect them.

Figure from Box et al., 2019 showing Arctic climate variables over the period 1970 – 2017. As of 2020, Arctic temperatures are warming faster than many climate models have predicted, with some research estimating a rate of three times as fast as the global temperature increase. a) Air temperatures from NCEP/NCAR Re-analysis data; b) Average North Slope, AK permafrost temperatures from Romanovsky et al, 2017.
WALTER “CHUCK” PETER
Traditional hunter and fisher

“I want to go over the importance of our way of life here in the [Yukon] Flats, and our hunting and fishing rights. You know, it seems like we’re always in a battle [for] our hunting and fishing rights, and our land. We’ve been fighting over the land, we’re still fighting over the land.

In the springtime as the snow melts and the river starts opening up is when we start getting ready to start hunting geese, and ducks, and our waterfowl. A lot of us put away [food] in our freezer, and you know we look forward to that every year. And every year the river it’s different. The ice melts different. You know, it gets warm it gets cold. But it seems like the river is going out earlier and earlier every year. I remember back when I was younger, at about 12 years old, I remember the river never used to go out till like the 18th or 20th of May. These days it’s going out the first week of May. Just recently, you see how early the Nenana Ice Classic went out? That’s record-breaking news there. Sure, we’re getting affected by climate change, it’s changing our everyday living here. It’s changing our river. Our river is drying up. Usually this time here, June, it’d

Lines are 20-year locally weighted regression (LOWESS) lines. Tanana River data are from the Nenana Ice Classic. Yukon River data are from Government of Yukon, Department of Environment.
be bank to bank and here you see all these mud bars showing here right now. Somewhere in the headwaters, the water is changing. It's getting diverted or something. I'm not a scientist but I can see this from years and years. [ ] I'm a hunter and fisher, this is what I love to do. It's how I provide for my family. Hunting geese, fishing in the summer, fishing King salmon. Even our King salmon stocks, we're getting over a low count and it's starting to rebound now. There were [recent] times when we couldn't even fish at all out there.

You know it does something to a community when you can't fish, cause this is the way we're growing up. We're raised to fish and provide salmon to eat. And when you can't go out there and fish on the river, there's not even a point to come down to the river bank. That was so depressing. You know back in 2013 when the decline in King salmon [happened] and we weren't allowed to fish, it impacted us big time here. I just wanted to mention how important that King salmon is, and that we need to protect King Salmon, protect our wildlife all the time. You know, we live in a diverse country where these fish, these mammals, animals, they fly up in their migration, man the birds fly up in their migration routes and they go through many countries and through Canada and the lower 48 and they fly back down and they get affected, we don't know what they go through, but we can't wait to get them. You know they're fat, and tasty animals. There's these 'specklebellies' we call them, in springtime, White-fronted geese, they fly up in flocks, just flocks and flocks come over. For three days they'll come, and usually stick around for a good two weeks. Usually, but with the springtime and this heat, the sun, it's driving them up north faster where they don't even want to stick around. Soon as the river goes, boom they're gone. We got to risk our lives going out there to get them, cause we gotta fight with the icebergs in the channel breaking up. You know, this is just every day. You know we adapt, sure we adapt, we're Natives, it's what we do, we adapt to these changes. You know, if we gotta risk our lives to go get birds, well let's go out there and do it, we're gonna go out there and fight that channel. We'll go out and get our geese in the springtime, get our fish in the summer, and come fall time we start seeing the leaves fly, well that's the time we go up and get our moose. That moose meat is one of the [most] valuable things we can have here in Gwich'yaa Zhee as a Native person. Getting that fat bull moose. No there's nothing, nothing better than coming up-river with a load of fat bull moose meat you know. Everybody can smile at that one, eh? Fat moose meat? I'm thinking about fat moose meat... Usually we run the highway, the Steese highway, and pick blueberries up there in the mountains, me and my family. We come down, we put the berries away in the freezer, or jar, make some blueberry jam or whatnot. Soon as that first moose comes around, soon as we get that first meat, when you get those fat moose kidneys and blueberry pancakes. That's what I'm thinking about! Yeah. [laughter].

You know, what would we do if we didn't have that? If we didn't have that resource? We wouldn't be able to survive on this land. There's just no way. We need our moose. What is survival in this land? Food security, you know it means a lot of different things to a lot of different people. But here, living in the bush it's the animals. It's animals that we harvest, throughout the year, through the spring and through the summer, through the fall. They are what keeps us here, what keeps us surviving. They're how we thrive. That's the most important way of our life. You know, usually I just want to go back when the salmon come up, the Elders used to say when there's cotton flyin'. But all that cotton it flew last week so the salmon must be already coming on the way. You know I heard that downriver, from people down river, and they say the same thing. That's just local knowledge I guess. Something we thought of, we don't think much about it but there's certain things like that that the land tells us. When it's time to go and harvest.

I just want to thank everyone here for listening to me. There's probably many other things I could be talking about. I think I said it all, how important our survival is with the land and animals. Thank you, mahsi' choo.”
ROBERT SOLOMON
Environmental Coordinator, Council of Athabascan Tribal Governments

“I’m Robert Solomon, I’m the environmental coordinator for CATG [Council of Athabascan Tribal Governments], we are a ten-member consortium serving the Yukon Flats. To say that we feel things are changing is not enough, when we’re trying to talk to a government or any other entity we have to have scientific data. So, CATG collaborates with Yukon River Intertribal Watershed Commission, and they have PhD’s and other higher educational degrees, to back up our claims. And what we do here along our watershed is we are getting baseline data on the water and every year the data is collected and compared to other years. We’re concerned about the air quality, the temperature, [ ] We’ve got four spots locally that we monitor throughout the open [ice-free] season. We haven’t been doing too much in the winter. Air quality, we’re always concerned about particulate matter, especially the finer particulates because of our younger population and our Elders. We are concerned mainly about the dust. And we have Stanley Edwin that works with the University and he’s got these little weather stations about three or four locations around the community and from time to time he’ll go to the other villages and get some data there. The air in our region up here is pretty pristine yet. [ ] Last year when we were doing water quality sampling our person down there in Anchorage was concerned about the temperature. The temperature is increasing and some of the effects that could naturally occur is we have

Data from the UAF Geophysical Institute Permafrost Laboratory.
mercury under us too, that could come up and get into the watershed [when permafrost melts]. Right now, there’s so much water it just dilutes it out. But that’s something that they’re looking at, and also, they’re concerned about any potential mining or oil and gas exploration anywhere within the watershed. We have that scientific community on our side, so with that collaboration I think that we need to communicate more with each other, to let each other know what’s going on in our communities. This unity that we are expressing here, we can be more solid with that.

It’s pretty humbling when you find out the effects this climate change can have on us. Firsthand, last year I went back up to Old Crow with the boat, and what I noticed on the [Porcupine] river up there it’s starting to slough in more, and it seems wider. When I did some sampling up that way about a hundred miles north, I’m noticing that it’s a little bit more turbid as a result [of the bank erosion]. So, that’s just something that I’m observing firsthand. If anybody else sees any kind of change like that, we just need to document it, and one good way to document that is to take pictures, take pictures of something that you see. Then later on you’ll notice that, you think there’s a change you can just look at the pictures. We’re looking into drone technology now too. Also up at CATG they’re working with Fish and Wildlife, and they’re always concerned about wildlife. So, that communication and that effort through managing our land and our natural resources is very critical when so many people depend on these natural resources just to get their needs, their nutritional needs met. Thanks for letting me have a little speak here, Bernadette, and I’ll talk to you guys later. So yeah, communication, and working together, and hang in there, you know.”
“My name is Hannah J. Solomon. I’ll say hello to everybody. I wanna say it in Gwich’in too. I used to go everywhere when Jonathon [her husband, Gwich’in leader Jonathon Solomon] was here, but I don’t go nowhere no more. I don’t think I’ll go anywhere no more.”

[Hannah spoke in Dinjii Zhuh Kyaa, and Steve Ginnis provided the English translation transcribed below.]

“She [Hannah] encouraged us to continue to stand together, work together, to pray. She’s happy for the gathering here, and for the people that have come to Fort Yukon to be here with all of you folks. She talked a little bit about her husband Jonathon, that when he travelled she travelled with him. Today she spends most of her time right here in Fort Yukon and most likely will spend all her time just here in Fort Yukon. Hannah has always been an inspiration to us because she articulates very well in our language, of who we are, where we come from, and she always ends with working together, standing together, and supporting each other. Mahsi’choo.

She also just mentioned to me that it’s important that we protect the resources that our people rely on. Meaning the caribou, moose, king salmon, things like this. Things that folks trap for, so she wanted me to relay that as well. Okay, thank you Hannah. Mahsi’choo.”
“Hi. My name is Stanley G. Edwin, I’m Draanjik Gwich’yaan Gwich’in. I’m Stan Gwich’in. My grandfather is Essau, William’s father, and he is reported to be the last one to build a caribou fence in the Yukon Flats. But the thing about that is, he didn’t do it alone. He had his people help him. And yesterday was a good example of how people come together, even though it’s a sad time. We laid one of our friends to sleep back there. Everybody was happy there, to see friends they haven’t seen in a long time, new friends they just met. People that were born out there but they come home, and so that’s how we get together. I’m Gwich’in, I’m also a physicist and right now I’m getting my Doctorate in atmospheric physics [received in 2020]. I like to think of myself as a tool for my people. Because a lot of the outside non-Natives, they come in, they want something from you. What they say, what they do, their data, is used for their own advantage. I studied climate change, well not exactly climate change, a small part of it. No one person does everything, everybody does a little thing just like when we all band together and do something as one, that’s what most scientists do. The gentleman that was talking from the EPA and the girl right after, they said lots, but in reality, it’s a sad story.

Arctic regions of the earth are ground zero, right here, we’re ground zero of climate change. Alaska and the Arctic regions feel climate change two to three times faster than anywhere else. There’s a lot of storms down in the states and all that, it doesn’t take much to change the weather. Just a small change in one thing will have a big effect. Permafrost they say is depleting, it’s pretty much gone. A couple of years ago we went downriver to help search for some friends. And the water was high going away, and one thing you notice most is that the river banks here in the Yukon were cut way the heck in, thirty or forty feet. That’s not normal. And then when it dropped, don’t never get near it or you’re going with it. Along the small sloughs when the water goes up, all the trees were laying in the forest, cut back. That’s not normal, and it’s because permafrost is no longer here. Here in Fort Yukon, I was talking to the city, and the older water lines that were put in first, they’re starting to break here and there. The earth has shifted. This spring, if you notice there was no major big ice movement this year, not a lot of water, not a lot of ice. The main channel may have flowed but the rest sort of dissipated, melted away. That’s because a lot of the water is being soaked into the ground. There’s no more permafrost there to hold it up.

As a people, we’re gonna have to start putting our heads together not only to fight those that want to take what’s not theirs for their own gain, we have to put our heads together on how we’re gonna survive the changes. Tree lines in the Arctic are moving north. There was literally no trees around here [during my great-grandfather’s time], we were in the tundra. That’s how they could do caribou fences and all that, and combine the caribou. Then the trees came up, caribou changed their routes. Those that hunt know the animal character the best. Amongst us, they often need to speak up. Because we need to know what the animals are doing. Our language, our culture, all come from this land. Our Gwich’in language comes from the environment. The way we do things, how we live...
in the woods, how we hunt, all comes from the animals. The water is our life. Our food is our medicine, not only for our survival, it's also what keeps us healthy. When you start changing them [the animals], you start changing us. So as a people, we need to come together more, and start thinking how the Elders used to do things. And they didn’t sit down and say, oh, how much you gonna pay me? As a group, we need to do things. It’s all right to be an individual, but no one person has a solution. I know I don’t, even though I study some of the hardest math in the world. A solution does not come from any one person, it comes from everyone. When they made decisions a long time ago, the Chief didn't make that decision, he asked his people. They come together and they say, okay, this is what we're gonna do, and he oversees it.

So, we're at ground zero. This is it. There's no going back, our cultures do not stay the same. They adapt, they change through time. The cultures of our great-great-great grandparents was not the same culture we have today. They were developing it, and it developed as it came through time. So tomorrows children's children, their Gwich'in culture is not gonna be exactly the same as ours, because their culture is gonna be dependent on what we do. Whether or not they're still living and hunting and being part of the earth will depend on what we do today and tomorrow. [] I'm a research physicist. I study the atmosphere, do pollution tests on Alaska because a lot of our pollution comes from China and blows up the main mountain range channels which goes this way. My Tribe sponsors and oversees my research. The one promise I gave them is “this data goes nowhere”. It is about my people, it’s about what we do. So if you want data or if you collect data, I'm sorry but you're gonna need to send a Native to get it, because there’s too much distrust. When a scientist comes and says, we need data, we’ll protect it. Send an Indian. Mahsi'choo.”
VENETIE, ALASKA
“My name is Timothy Roberts. I was elected [First Chief of Venetie] the 29th of last September, that was 26 days after I turned 22 years old, and I’ve gotta say it’s been amazing since then. A month before that I had no idea it was gonna happen, and here we are in June, at this new Climate Summit here in Fort Yukon, it’s been amazing.

About climate and hunting, one of the things I’ve seen that really disturbed me most was probably about 5 or 6 years ago. Me, my father, and a few of my siblings went up the river from Venetie and we seen a moose kill on the right side of the river, on our side of the Chandalar [River] so we stopped to check it out. It was a dinjik, a big bull moose, the only thing that was gone was the head, and what does that say, you know? Anyone could be going up there with a plane and doing that. And the way we found out it was a plane, not even 100 yards from that kill was the runway there, and fresh airplane tracks. Since then we haven’t seen that, but still we grabbed about half that moose meat and brought it with us. So yeah, that scared me, really, just knowing that anyone can go up there to that place and do whatever they want. You know from [Gwich’in term] and all the sheep up there, and who’s to stop em. There’s only us that they see, if they see us at all, really.

I’ve lived in Venetie all my life, and started hunting since I was 8 or 9, picked up a shotgun, rifle, etcetera. Over these past years, I’ve seen drastic changes throughout from here to the Chandalar. This year with geese hunting I came down, I asked people ‘how’d you do with geese?’ They said ‘how’d you do with geese?’ They’re like ‘oh, we shot a few.’ And like what Chuckie [Peter] was saying it was supposed to last for three days, but for us up there in Venetie it lasted weeks because the geese were coming in the morning, 4 or 5 in the morning, just nonstop waves.

And later on that afternoon they’re all coming back, and those are the birds that are already supposed to be past the Brooks Range. That pretty much says it’s still winter up that way. Yeah, it was really weird. Everything about it was weird. Like, the river, the river wasn’t high at all, only 6 or 7 inches of water. We still took off [hunting despite the conditions]. Again what Chuck was saying, sometimes we risk our life for these things but we gotta get them, and we did. Three or four days and they’re coming back with almost 150 geese, most of which was passed out to the village. I only have maybe 15 in my freezer. Sent whole ones to Fairbanks, passed around to the whole village of Venetie. Some in Arctic [Village], some here. Not only with the geese, the black ducks too. I asked about ‘em here. They said they only got so few, but in Venetie at Big Lake there, it was full of black ducks. Full. Thousands, you look out there in binoculars, it’s just black like one big island of straight black ducks. And that really struck me when I come down here and asked people about it, they said yeah we had a few, and we had a lot.

These climate changes, differences, they are real. And as young as I am, I see it. I acknowledge it. But what can we do about it, really? Especially with the river. The Chandalar got as high up to the old village, if the old village was still there it wouldn’t be there anymore again. The water was all the way up to the old church there. Completely up to the other side of the big timber line there. Now I’ve never seen that before. I guess the last time it happened like that was back in ’74. So yeah, these changes are real. And with the erosion happening, our lakes are getting bigger. Yeah I don’t see ‘em drying up any time soon if anything they’re getting bigger. Caribou, the caribou this year was a lot different than before cause they were more spread out between Venetie and Arctic [Village]. Just all
over the place and recently too, just recently. A few months ago we were shooting caribou five or six miles out of the village, right up the [] trail, and there’s teenage girls that were going up there and shooting caribou which was awesome. Just going for a little ride and happened to see 20 or 30 caribou going up across the road. It was great, it was a really good spring for us. But when I come down here, come down this way and ask about it, not everyone gets to get the hand in the cookie jar, so to speak. We help as much as we can, sending out meat. I know my father sent Hannah [Solomon] almost five caribou. We got a lot, had a lot of meat this year. It’s kinda sad to say, the diminishing numbers, the animals have had a lot to deal with these past years.

To Bernadette and her AICS team, I gotta say I have the utmost respect for you guys, you guys are doing great. All the travelling, the business, I gotta say you guys are doing awesome. Thank you. Can’t have enough friends these days, I’ll tell ya that. Thank you for having me, mahsi’choo.”

Approximate lethal limit for Pacific salmon adults (USGS Alaska Science Center)

Chandalar River near the Yukon: Hourly temperature

Data available from the Alaska Department of Fish and Game.
“Hello, shalak naii. Thank you and I’m glad to be here. This is my hometown, I was born here and I’m just happy to be here, to see all your faces. I’m glad you’re all doing good. I’m just happy to be here in your village. We are here for the caribou and [] we are their voices and we use ours for them. And caribou is our way of life, and it’s our tradition, our culture, and they’re very important to us. [] I’m very happy and proud to help, and I’m happy to be here. There’s a lot of things that we learn from a meeting like this, and I’m so happy all the Elders are here and sharing what they learned and they’re passing it to us. And I’m so happy for that. There’s a lot of things that we need to do. And we all need to help one another, we need to be as one. We need to help one another and talk about this, and right now we really do need help. You know they got the coastal plain, they got like 95% already, and there’s a little 5% on this side and they want that too. [] We are the people of this land here, this is very important, caribou is an important thing to us. [] We’ve already done so much, thanks to Bernadette and all the other people, thanks for helping us with this. I’m so happy that they’re doing this. And our kids, and our grandkids, all that is involved here. What will happen to us? Like 10 years from now, we need to think about our future, it’s very important. Our future is at stake right now and we need to start doing something about it. Thank you for the rest of the people that’s helping, I really appreciate your help.”
“Shalak naii! Everyone should learn that term “Shalak naii”! My relations! You’re all my relations. That includes that river, the Yukon River. My hearts’ really happy to be here in Gwich’yaa Zhee. I’m so grateful that I grew up without the internet. I grew up listening to my Elders, spending time, lots of quiet time, with my grandma, teaching me how to be a good person, teaching me how to do beadwork. And sometimes, her lessons weren’t gentle. Sometimes she spoke to me harshly. I guess that’s the Gwich’in way sometimes. But we’re just trying to lead each other in the right direction. You know, we all make mistakes, but when we have a community that loves us, no matter how far we fall down, if you have a community that loves you, you know you can stand back up. There’s always gonna be a hand there to gently lift us up. And that’s where we’re at, when I look around the world, when I look at this country and I see racism, and hatred. Greed. Envy. I think about the people that we really are, the people that we come from. It was about taking care of one another, taking care of the land, speaking the same language as the animals. I think if we model that for the world, that would be a really good thing. Steve [Ginnis] was talking to me earlier about the importance of us telling our own stories, from our perspective, and what we’ve been through as Indigenous people. Our resilience. I go back to those old stories, and I think about the blessings of this day. You know there’s a lot of doom and gloom in the air and yeah, we’re going through these changes but on Sunday I was processing fish, and I was thanking that fish, and my brothers and the family, and the little children. My youngest is 4 and I have an 8 year old and a 17 year old and they’re so excited they wanted me to fry up the fish eggs right away, and they get excited about fish head soup. That’s what makes me happy. I’m so grateful that today we’re still able to do that. That’s what it’s about. Are we gonna have that for those future generations? To me, that’s our spirituality. It’s putting our hand on the land, putting our hand to process that fish. Thanking that hook choo for its life. Thanking that water. That all of our ancestors for thousands of years have travelled upon these waterways and this
land that we're on right now. That's what's sacred. That's what defending the sacred is about. And it takes a lot of energy. I wouldn't stand up here and speak if I didn't feel called by Creator to do that. Everyone that speaks up, we all have a role, whether you're behind this microphone or sitting here, **we all have a role to play to protect our Mother Earth at this moment in time, and we do that with love.** With that deep, deep love and respect that we have for one another as human beings. So, make that quiet time in your life. Ask your children what they dreamt about. My mom always asked me first thing in the morning, what did you dream about? We have the solutions, and we need to remember to dream. We come from people that had visions. Dreams. That sovereignty, we know in our hearts what we need to do, and if we just keep that love and that gratitude and we tell our stories and we share that out with the world I believe that that will make a difference. It is making a difference. You know, Bernadette and everybody else that’s been going down and confronting the corporations, the oil corporations, I mean that takes a lot of spiritual energy and courage to do that. I’m just really grateful for everyone. Whether you’re out there travelling or you’re here locally working on solutions. Solutions are just sometimes going to someone’s house and saying hey, how’re you doing? Checking in on one another. Remembering how to be a real human being. So with that, I just wanna say, mahsi’choo, shalak naii, everyone should say that! Mahsi’choo, I’m just very, very grateful to be here with you all.”

![Yearly average air temperature at Arctic Village](image)

*Red line is a 5-yr moving average. Data from NOAA NCEI Integrated Surface Database; accessed through the IMIQ Data Portal.*
Boats parked at Gwich’ya Zhee on the Yukon River. Old Crow is a 12 hour boat ride from Gwich’ya Zhee along the Porcupine River. (Photo: Brie Van Dam)
“Hello, first of all, I want to say how proud I am to be here. I’m from Old Crow, that’s across the border on the Canadian side. My wife was from here, I lost her to cancer. I have a lot of her family and friends that we expect to see, and I brought one of my daughters down. [ ] I don’t know what to say except to say I’m proud to be here. And I want to let you know I’m 87 now. That doesn’t make me better, that just means I seen all the changes and this has been a long time coming, I would guess.

For the young people to know what’s ahead, you have your elderly people at work for you, for the land, and everything like that from time beginning. [ ] I [lived] upon the land. I wore snowshoes probably as soon as I could walk and learned to hunt and trap, and I learned my kids as well. So, I want to let you know I do support the Native way of life. Some of it is not so easy but it’s a good life in a way. You’ve got the animals, you’ve got the birds, you’ve got everything watching us. And it’s just so nice to be here. [ ] I’m here alone, kind of, in a way very proud to be here. I been to Kaktovik, Barter Island, Herschel Island, many years ago. I’ve seen all the changes. I’ve seen the changes what’s the gentlemen before me has been talking about. All the permafrost going, and Steve Ginnis is here to stop it, aren’t you? [laughter] So, I think I’ll back out now and I’ll do more listening, but later on maybe I might find my way to talk again, I thank you very much.”

Data from Environment and Climate Change Canada.
KOYUKUK RIVER, ALASKA

Photo: Keri Oberly
DARRELL VENT
Traditional hunter and fisher

“I’m Darrell Vent, I live in the center of Alaska, Huslia, which is along the Koyukuk River. When I was a young kid, my grandparents started educating me, telling me to go out there and learn how to deal with the [external] management that’s gonna happen. So, just to give you a little history of what happened, we had a meeting with the state and the federal people, they came over and told us ‘we’re gonna put a pipeline in your backyard and it’s not gonna affect any of your hunting ways or your fishing.’ So, we sat there and listened to them and they made promises. They said, ‘the caribou are still gonna be coming through and you’re gonna be able to hunt.’ After 1976 there were no more caribou migrating through our area. The Central [Arctic caribou] herd was split, it came over either on the east side or on the west side, and we were impacted by this. We had to adapt to what they did. They made a promise to us that it would not affect our food, and our caribou, but we can’t hunt in our area no more. We have to go over towards Selawik, Shungnak, or up above Hughes [70 to 120 air miles away]. And it’s not as good as the caribou we used to get. We used to get these caribou in the fall time that was fat. We don’t get that no more because we can’t hunt in our areas, they’re not around, they moved away. What do we do about it now, is the thing. You guys are gonna be faced with this if you let them come into your backyard. Listen to this story because it’s gonna affect you.

It hurt our people because we had to adapt and we started hunting more for moose, fish, other species. That’s how we are though, we’re people that learn how to adapt because we migrated with the animals, that was a long time ago. Stories from way back, the same thing you guys used to do around here. We never had villages, people used to move with the food. In springtime, you had winter camps, spring camps.

[] Back in the early 60s, 50s, there was no [external state or federal] management. Food was there, food was plentiful. The state came in said ‘we’re gonna manage this for you.’ We said, okay. Since that time, to now, I don’t think that management worked. We don’t have the caribou that we used to have, we don’t have the moose that we used to have, we don’t have the fish we used to have. What kind of management is that? Most of our people can’t afford any kind

Credit: map used with permission from ADFG
of food in the store, they have to depend on the government to get food stamps. That’s not management. That’s just taking something away from them, making them dependent on something else. [] Now, we’re in a hard place.

Okay, now, I was supposed to be speaking on climate change. But, I just had to give you a little history of what’s going on here. It’s a real touchy situation, where I’m from we have an erosion problem. As of right now we have five houses that have to be moved back from the river bank because it’s eroding so fast now. Climate change is affecting the permafrost so our village is just dropping into the water. And they’re giving us money, but you know how that works, it’s never enough. We move the houses, there’s no water and sewer hookup, there’s no electrical hookup, they don’t have enough [money] to do that. []

Our moose is starting to migrate. Our caribou is not there anymore. Our fish spawning grounds are not in the same adequate place as they were before. They had to move, cause the water temperature is not right. They can’t spawn in these areas no more, they had to move to different areas. Whether it’s from mining, or from global warming, we’re getting affected by all these situations. We depend on this food. [] I’ve been sitting on some hunting, fishing Task Forces, the Fish Commission, Alaska Tribal Unity, just anything that I can possibly get more education on how to work with the federal and state government. Whether it’s co-management or just sitting at the table with them. We have to learn how to improvise. []

It’s different when it’s global warming because we can’t trap like we used to, we can’t hunt like we used to, we have to adapt to what we got out there. I spoke with some gentlemen earlier about our ways of life, I was telling them what I see on the land. Because of global warming we’re seeing that the moose is having a tougher time to survive, the calves are not being born like they were born before. We had big moose. [Outside] hunters came in, they saw these big moose with these big horns. I remember back in 1972, [an outside hunter] looked in the dog yard there’s an 80 inch horn right there with a dog tied to it. The hunter said, ‘who’s horn is that?’ I said, ‘the dog’s horn. You don’t need it.’ We don’t need that horn. But they changed that. They [outside city-based hunters] came in, shot an 81 \( \frac{3}{4} \) inch horn. I don’t know what happened to the moose meat, but they sure got that horn. We’re finding out, when they go out from the village of Huslia, they go to Galena. And from Galena, there’s a dump site right there. So there’s what you call ‘wanton waste.’ It wasn’t in regulations then, but [outside city-based hunters] were bringing their moose meat to Galena, and throwing the moose in the dump. The meat!

I don’t want to take up too much of your time, but I’m just giving you a little history about what I had to go through in order to be standing here in front of you. It’s important work that we have to do. We’re depending on something that’s vital for our people to live. We got no other store, this is our store out there. [] What they call ‘subsistence.’ I don’t call it subsistence. It’s traditional cultural use of our land. And it’s important to our people. A lot more than to others, because they have other areas to live in. I thank you for your time.”
“Thank you. I have a lot of things to say. I’m from Koyukuk, the Koyukuk river, and live in Nulato. Been on all kinds of boards in the past, [...] Western Regional Council, Yukon Drainage Fishery Association, Middle Yukon Advisory, Fairbanks Outboard Association [...] I’ve been doing this for a long time, thinking about our Native people, our kids mostly. [...] I’ll maybe start with some of our things that happened over in our past that I don’t know if a lot of us think about.

What’s happening up north, we don’t really know the reasons for these things to happen and what’s causing all this climate change. [...] It concerns me in a lot of ways. [...] We’re losing all our ice up there [up north]. We all live by a written Constitution out of the government. We have land that they want. We have the resources they want, we have the moose, we have everything that they want. They’re still trying to get it. They have all kinds of ways to get it, if you think about it, they took everything from all the Tribes down in the states. We’re the last frontier here. [...] It’s possibly an uphill battle to them, cause [of] the conditions in Alaska. But for me, I don’t know, I’m gonna stand up to that, that’s one of the reasons I got invited here. [...] Like I said we live by a Constitution that’s written. They want us to live by something that they don’t know nothing about up here in Alaska, and everywhere in Alaska where all us Native people live. We live by an unwritten Constitution. We have what the Lord gave us. That’s what they want part of, but they abused their part, and they don’t have it anymore. [...] We look toward Fairbanks [...] for education and I’m glad there’s a lot of us that went there and got degrees and everything like that in order to come back here. Then you turn around, and you look at all the bears, the moose the caribou, everything that the Lord gave you to live in this country. You should be the rulers of this stuff, no one else. That’s just the things I been thinking about.

[...] I’m really thankful to speak in front of people that are trying to reach out, and you know, think about our kids and everything like that. And I will stand with you, that’s why I’m here, I want to work with you. Just because we’re from different parts of Alaska doesn’t mean we don’t survive on the same thing, the moose, the caribou, the berries, the fish. Everything like that, we all need that, that’s the only way we can survive. The bottom line behind all that,
we’re gonna need each other regardless. And if you want to live, and there’s enough resources around here to live, great. You live a good life, there’s [stuff] you need from the store, which we’ll always need. There’s not much jobs, there’s not much of anything. But, we have each other. And, I still see this land as rich land. Don’t ever give up on that part.

So I’ll go to what I’m here for I guess, is climate, is things about the country I live in [ ] In the fall time, we’re running into issues. Last fall, I was recording things because I wanna see the difference in the past or in the past years. On September 3rd last year we had a bunch of cranes flying south. On September 3rd! It got to below freezing, got really cold, and then kinda confused me because a lot of cranes [were] flying south and our Elders always told us once those cranes started moving, that’s when the moose start moving. And everybody’s like well what the heck’s going on here, it started freezing, the boats are freezing and all of that. But then on September 6th, it warmed up to 50, 60, 70 degrees again. And it stayed like that till Sept 18th. And the moose start finally moving, and the cranes start flying south [again], and that’s a late date. It confused a lot of hunters, a lot, even the non-raised [outsider] hunters, the big game hunters. I’m glad it went like that cause they didn’t get much of our moose cause the season closed on the 25th. It kinda confused a lot of our own. Some people they waited, they waited till moose start moving. [] Then the rivers: the Yukon river, which I never ever seen before, it was running full, open, bank to bank on November 20. That’s history to me. And it ran, we were unable to travel the Yukon, that made it very dangerous. That’s what happened in the fall. The winter came around, there was a lot of snow, and the conditions were different. We had an early freeze-up, or not an early freeze up, right after November, December came by it got cold. I don’t know if it happened here, but it got to 20, 30 below for a couple of weeks and our main ice froze. It got about a foot thick, then we don’t know where all the snow came from, it snowed up 3 or 4 feet on the Yukon, then it turned round and got up to 30 or 40 degrees for I don’t know how long, and it melted that snow. Water on top of the ice. And it layered at least about 2 feet. Then [ ] the Yukon, and a lot of the places all the way to Huslia through the big lakes and everything all were full of water. Then it froze again. Which caused it to have, this big void of water in between two layers of ice. So the top part froze, to maybe another foot thick, so all during the winter it was dangerous you had to watch where you’re going, some of the leads were bad. And it made trapping bad for the beaver because you had double ice. A lot of the conditions were where the beaver were under a layer of ice that was under this layer of ice, and you made holes and it was kinda hard to get them. That was a little confusing, I mean the professional trappers they figured it out, but a lot of people that just wanted to trap, they had a hard time.

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**Approximate lethal limit for Pacific salmon adults (USGS Alaska Science Center)**

![Yukon River: daily maximum water temperature at Pilot Station](image)

Data from US Geological Survey Alaska Water Science Center.
The traveling routes, we always used the Yukon and down the lower Yukon, for like, like your roads in between Nenana and Fairbanks. That’s our road during the winter. That had open leads [areas of open water] up to 6, 7 miles long. We couldn’t use the Yukon [for winter travel]. So we had to go to a northern portage. The past few years, the Iron Dog [snowmachine race] which is on the Yukon, but the last few years had to get permits to go through a portage in order to get between Galena and Nulato. Which is getting different every year cause of climate change. And then, we got to use the river, but it was after February, which is about four months late. That’s kinda crazy.

Now I’ll move on to the spring. There was, you really had to watch it once it started thawing out cause you had the double ice, it was crazy, you’re thinking well the ice should have been 2 foot thick when it was one foot there. The bottom layer thawed out first, the top layer wasn’t too thick so it really got dangerous as well as maybe here, the hunting geese. [ ] Even though we trap up over land on the big lakes, I mean for hunting geese there, the travelling conditions were bad. The geese didn’t show up on time, it kinda confused us, they’re all a couple weeks off. And then this spring, another thing that we didn’t see, is we didn’t see our black ducks. I don’t know if that happened here, but usually we eat the black ducks too, and we were lucky to get two or three this spring. Our Elders weren’t too happy about that.

These conditions are getting worse every year. I’m moving on to the summer. We have a lot of bank erosion, hill slides that are happening all the way from around the Tanana area far as I went, quite a ways down the Yukon last year, and ran into many hill slides that never happened in the past. Big hill slides where it comes down and it pushes maybe one eighth the way out into the Yukon [ ]. I don’t know if it’s nature taking it’s course, or, well it is in a way cause of thawing. The lakes been changing because of the permafrost thawing. [ ] I think it’s happening everywhere because of the hot weather and the permafrost and the winters not being so cold, because a lot of our lakes are turning in, like Mr. Ginnis was talking about across here where all the lakes are drying up. Down in our area, in places where our grandfathers taught us to hunt and trap, we have to move from those areas because it seems like what’s happening is the permafrost is thawing and the top layer, the moss, and everything is sponging up and it’s harder to walk on. And it seems like the lakes don’t look the same, and moss is thawing out and it’s getting spongy, and all the animals they move from there. And that’s a big concern because we have to as well: the animals move, we move. You know, what I really seen over the last twenty to thirty years ever since I really been getting in to speaking up and trying to figure out what we need to do amongst our people. What I seen was lots of our moose, our bears, our beavers, muskrat, a lot of the game is moving down to lower Alaska, more toward Emmonak area, [and] southeast Alaska. A whole bunch, they have moose down there like crazy. They have moose where now they have two moose per hunting season, per person. I’m wondering where our moose are going, wondering where our bears are going. The wolves followed ‘em down there. The beavers are damming up all their fishing streams which they don’t like, they tell us to go down there and get our beaver back so they don’t have that problem anymore. What I seen the last 20 to 30 years myself, [ ] before we never had lynx, now we have hundreds of lynx, walking through the villages. We had good marten areas, but once the lynx move in they eat a lot of the marten. And what I think and what I believe is that, looking farther up in Alaska and all the meetings that we go through, seems like a lot of our game is migrating south. [ ] A lot of our moose on the Koyukuk river, their conditions got different, the moose move out, they all move for a reason, they have to have their reason to move, and they’re no better than us cause they got to survive as well. [ ] One more thing on the moose, just last year a fisherman that I know was out in the ocean, 11 miles off the coast, and he said, a few times he run into moose that’s swimming out into the ocean. He tried to turn it around but it won’t turn round, it just kept kicking and swimming straight south. And that really concerned me, because why is this moose on it’s own, swimming out into the ocean? Eleven miles from shore? That’s something to think about. [ ] There’s starting to
be different species in our areas. Different birds too, that we’re noticing that we’ve never ever seen before.

This climate change is really affecting us. I’m here because I want to work with the people and we have young ones coming up, and we have different values to deal with here in order for survival. Just trying to think about it, and have my ears open to what, what are you gonna do, what are we gonna do. So, I don’t want to take up too much of your time, cause I could talk for days. One of the things I really think about with our lower Yukon people, I’m really proud of you guys having this Gwich’in Gathering, don’t never stop that.

[ ] Like I said, all you youngsters you listen to those folks that brought you up here and put you on this earth. They have a lot of knowledge and they’re not talking for nothing. There’s a lot of different people here, different races of people, you’re here to help us and I’m here to help you, and all for the good. You know when we run out of people in leadership, my bottom line, like in our country we’re losing our Native language, losing the Native dancing and everything like that, there’s one person that I always look up to that will guide my way and once I can’t find anybody else to talk to or need a direction, I always pray to the Lord. There’s a guy up there, there’s always Him there. That’s where you go. So anyway, thank you for your time. Thank you so much.”
ANAKTUVUK PASS, ALASKA

Photo: Brie Van Dam
"My name is Stanley Riley, I come from Anaktuvuk Pass, which is 63 miles above the Arctic Circle. It is the bordering territory between your people and my people, the Gwich'ya Zhee and the Nunamiut people. Just like you, our bodies have adapted over thousands of years to digest the vitamin, mineral, nutrient foods that we have. Caribou is our number one source of traditional food. Every time of the year, we always hunt caribou. Since we put that Trans-Alaska pipeline in, towards [] is where the porcupine herd used to come through. The Elders of our village are the ones that told us about it. Since Prudhoe Bay has been put in the ground there, the Porcupine herd is the herd that doesn’t come through anymore. When our Elders talk about this, the Porcupine herd not coming through, our corporation disagrees and said they never ever came through. So that’s something huge for me is that they’re ignoring our Elders on this matter. The valley we live in with Anaktuvuk Pass, the biggest reason why we decided to settle in that valley when the BIA [Bureau of Indian Affairs] came through is that’s where all the herds of caribou pass through. It’s on the same parallel as Arctic Village. For thousands of years our people would battle over our types of life, and it’s kinda cool to be sitting here amongst you people as friends. I can see the love of your people. Thank you Bernadette, for inviting me here. It’s nice to have a platform for which we can speak. We could talk about these changes that are happening so drastically in front of our faces. It’s nice to have a platform and a place that we speak with a conscience in mind of the environment.
In my lifetime, I’ve seen the coastline of Barrow since I was a kid, at 34 years old, [the coastline has] receded within one mile of the way it used to be. We got one mile less of coastline on the north coast of Alaska. We get record-breaking temperatures every single summer. Now we’re finding our marine mammals drowned, starved, they can’t find the ice they can go to. First time I went whaling in 1997, first thing they teach you as an Iñupiaq person up in Utqiagvik is how to find fresh water on the ocean. So we go and we’re able to look at the ice, and we’re able to tell which parts of the ocean are the frozen parts that we could get fresh water off to drink. Now we cannot find this source of fresh water on our pack ice anymore when we’re out whaling. We have to haul our own water out there. When I turned 16 years old, I went and I hunted a polar bear, nanuk. In my family from Utqiagvik, this was a rite of passage for when you turned into a man. I was able to do the same thing my ancestors have done for years and years before. A couple years later, that was the first time I ever found a polar bear that was drowned on the beach. A polar bear. Drowned. You know? I don’t wanna hunt polar bears anymore. I’m pretty ashamed of ourselves as a human race, as how far we’ve let ourselves go, and the fact that when I have children, and when I have grandchildren, they may not be able to hunt these animals, and live the way we have for thousands of years. And so I’m really concerned about the things that I see right in front of my face.

A little bit of experience in the last four years, I’ve probably hiked on foot maybe 1000 miles or so through the [Arctic National Wildlife Refuge]. I do all my hunting and fishing on foot there, everything comes back on my back. That’s how I teach my nephews and nieces to go out on the country. I want us to be able to transition back to a place where we could better protect our way of life and our traditions.

At one time, at the end of the 1800s before people came in, we had 300,000 people that got decimated from sickness, all the way down to [a population of] 1200. When people tell us we can’t make this transition back to a place with a clean environment, I let them know that, as of right now, we’re at 5.5% of [the population] we have been at before. As Native people in Alaska, we didn’t just survive, people say that we’re survivors and yes we are survivors, but before that time when we had to survive when the people came in and tried to kill us and destroy our life, we thrived through agriculture. I believe as a people we can go back, go back and live consciously with our environment. The most important thing the Elders taught me when I was a kid that one cannot own land, it’d be like owning the air or the sky. And so these land fights and such is something that’s different. We were nomadic people, before. My mom was the last generation of people that lived in Oolah, which is now Wiseman. That used to be an Iñupiaq place. Now there’s a big pipeline that goes in between our ancestral lands and there’s no Iñupiaq people that live there anymore. There’s a big pipeline though. I’m pretty upset that my family can’t live there anymore. And, I just, it’s nice to be here with people that have so much support for our future. It’s also cool to see that the kids that are growing up are asking these questions that in my generation we never asked. It gives me some hope to see people from all over the world that support this movement and this cause for a better world. In the end, we’re trying to save this place, for our generations to come of Indigenous people.”

Red line is a 5-yr moving average. Data from NOAA NCEI Integrated Surface Database; accessed through the IMIQ Data Portal.
NUIQSUT, ALASKA
“I welcomed everyone here in Iñupiaq, and said my name is Siqiniq, my English name is Sarah, and I was born in Utqiaġvik. I’m in Fairbanks, that’s where I was raised, and then between Anchorage and there. My grandmother is of the Kuukpikmiut, the traditional people of Nuiqsut. My family is one of the families that lived the most, I wouldn’t say traditional, but ‘untouched’ for a very long time. When I was listening to Bernadette talk earlier, and she talked about her disconnection from the caribou herd, the Porcupine caribou herd, and that feeling. I understood that so much because my journey has been very much living in the city, and feeling very lost and disconnected. And when you feel disconnected and lost, it doesn’t just go away. You don’t understand what’s wrong, and I think especially for many Indigenous people of Alaska and all around, we’re one of the first generations to not know our language. Language that has been spoken since time immemorial. We’re one of the first to not have full access to our Iñupiaq food, that’s a special thing, what we call it translates into ‘real food’.

The first time I was able to go back to Nuiqsut since I was a little girl for my grandpa’s funeral, but as an adult I went, and touching my feet on the ground was such a different feeling. The feeling of going to Nuiqsut was so humbling and so good and it felt like I didn’t know I was searching for this my whole life but I knew at that moment. When I looked around there was a smog all around Nuiqsut. And when you look around there, there’s oil fields everywhere. You can see flaring, these huge pipes with fire. I’m not allowed on my land, unless I have someone escort me. We can drive up to Prudhoe [Bay], but after that, because I’m not a resident, strangers are allowed on this land but I’m not. So I get escorted through the Kuparuk oil fields so we can go to Nuiqsut, and going through there you see flames everywhere and then you can go into the oil field, they call them the “spike rooms,” to get some food. And we aren’t treated very good. You can feel that energy when you come into these man camps. They’re not too happy when we are able to “get free food” from these places. So we boat there, to my village, and it just seemed so different from when I was a little girl and I visited. And the more I talked with my Elders, my aunts, they told me that the caribou used to run in such big herds that it would be more than what the people needed. They haven’t seen a herd of caribou come in about 20 years, a little after Prudhoe Bay was established. Now my family has to go about 10 hours upriver to get caribou. And what’s happening is we’re finding caribou with black bone marrow. Our whitefish is becoming very sick, it’s discolored. As someone that grew up in the city, my only connection to my people is food, and that’s something I always had, I always had tuttu is what we call caribou, and that’s my favorite. To think that so many other young people are being displaced from their lands, cause we don’t have enough jobs, so many other reasons that we have to go out and our connection to our food is so important as our medicine, as our way of remembering where we come from and keeping that tradition. And it feels like, after everything that’s happened to our people it’s the one thing that we’ve really been able to hold on to. To think that’s being taken away, cause it’s happening right now. As much as my Corporation likes to put a story that our animals are healthy, that we’re doing very well, many of our people are suffering. We’re seeing this across the entire globe, it’s not just in the villages but we’re seeing people that are violent, we’re seeing so many sicknesses that aren’t of our people.

As much as I speak out against the ASRC [Arctic Slope Regional Corporation], they are my relatives. And when the last piece of muktuk [whale] that we’re able to
harvest is gone, and when that caribou we start seeing more black bone marrow happen, when we start seeing our fish get sick, my [relatives] are gonna be just as devastated. When I talk to them I hope they understand that we share that connection, and we’re all going to lose if we start to drill in the Arctic Refuge, if we continue to desecrate our lands.

When we think about the changing world that we’re in, and we think about our sick whales that are washing up dead on the shores full of plastic and full of toxins, we need to do everything we can to protect them. But what we’re losing sight of is [ ] that we’ve fallen out of balance with our values. And what I hear talked about a lot is lñupiaq values. But nowhere do I see one of our lñupiaq values to be rich, to be monetarily rich. [ ] It is respect for nature, it is respect for others, and our sacred relationship with the bowhead whale, with our tuttu, is something that I work really hard to bring to the surface again, because it’s sleeping, that relationship.

So what I see is that climate change is eroding our village of Utqiagvik, where my grandfather was born and raised, the shoreline is coming in about a mile since my mom was a little girl. We’re seeing my auntie’s house is going to be falling into the ocean very soon. We’re seeing our whales are sick, our tuttu are starving but we continue to push through and say that they’re healthy. And we need to do everything we can to protect what we still have. Cause right now we’re at a point where we can still change, and we can still get our animals to be healthy again. But if we continue to go down the path that we know is not right in our hearts we’re going to see changes that are irreversible and that’s what pushes me. Something else that I wanted to talk a little bit about, is [ ] what I found out that’s a lot more immediate that’s being kept under wraps is that, when Nuiqsut residents started speaking out in the village of Nuiqsut, they started to speak about asthma, cancer, about the sick fish, the sick caribou, they were being silenced and ignored. They went all the way to Congress, they have gone to [Alaska Department of] Fish and Game, they have gone to the North Slope Borough, and they’re not being listened to. It is very intentional, and I hope to uplift everyone in Nuiqsut, and what they are already speaking about. I had the privilege of going to Nuiqsut to do an air quality testing with the local community group, and I read a report and it started to talk about all of these things that I had already experienced, like the asthma. Every other week getting a call that my uncle, my second cousin, my aunt has cancer. Right? Or they’re really sick. But then we started hearing about twenty year-olds with stage four cancer, we started hearing about children in a small population with leukemia. But what we’re told is that it’s God’s will, to just pray and there’s no one to blame. But there is someone. That’s what drives me is that our children are being affected right now. And this oil production and this extractive industry is killing us but they’re telling us we need them and we don’t. We survived, we didn’t just survive, we thrived, for thousands and thousands of years without this money, without this oil. And we can do it again, and we will do it again. And I wanna say quyanaq to everyone who showed up here to protect our sacred lands. Everyone has a role here but especially this Indigenous-led movement, this is the right way, and it’s what’s gonna get us out of this mess that we’ve created. So I hope, even in my anger and my bitterness towards my own people sometimes, that I can fight with love. And to do it in a good way and that’s what I’ve learned from the Gwich’in, to go on this journey in a good way. So thank you so much, quyanaq.

Red line is a 5-yr moving average. Data from NOAA NCEI Integrated Surface Database; accessed through the IMIQ Data Portal.
The Arctic is changing rapidly, as demonstrated by the knowledge shared at the Arctic Indigenous Climate Summit. After the Summit was held in June 2019, several alarming events occurred with links to climate change, including a massive salmon death event in the Koyukuk and other interior Alaska rivers in 2019, and a record low fall chum salmon run on the Yukon in 2020. The salmon deaths in 2019 were connected to high water temperatures in the rivers. About witnessing dead salmon in the river, Tommy Kriska (page 36), who lives near the Koyukuk River, said: “That was kind of crazy, there were thousands of them. We saw probably 800 in one day.” Residents along the Koyukuk noted that the dead fish still had eggs inside, meaning they had not spawned yet. Both Tommy Kriska and Chuck Peter (page 17), who lives in Gwich’yaa Zhee along the Yukon River, noted that in the summer of 2019 the Yukon River was very low, and water temperatures were warm. In sharp contrast, during the summer of 2020, river levels were high, complicating fishing in some areas of the river. In 2020, the Chinook salmon run was weak, and the fall Chum salmon returns have been the lowest on record requiring both Alaska and the Yukon Territory in Canada to take measures to reduce harvest opportunities. Chuck said that “There weren’t hardly any fish, it seemed like it was really low all year long.” He also noted a lot of rain in the spring which melted snow and rotted out the river ice faster than usual, leading to additional challenges hunting waterfowl along the river as people usually do in springtime. Chuck in Gwich’yaa Zhee, and Tommy further down the Yukon in Nulato, noted that moose were late in the fall season, likely due to warmer temperatures, and many hunters had to wait until later in the season.

Families depend on the fish and on the moose for the winter, and these changes are already affecting them. One goal of the 2019 AICS was to bring Indigenous people together from across Alaska and the US to share their experiences and ideas and to strengthen their voices together. This collaboration, connection, and sharing is increasingly vital in this region of rapid change.
Some attendees at the Arctic Indigenous Climate Summit 2019. Photo courtesy Bernadette Demientieff

INDIGENOUS AND OTHER ALLIES
“I’m from Black Mesa (Big Mountain), Arizona. When my people started the uprising in Big Mountain we had a lot of people come out from different places; other Native people from other places and in these times when we had big meetings my Elders spoke of the day that we would meet again with these relatives the Athabascans from up north and it would be for a reason. This reason now is because of the climate issues, the changes in the environment. I believe that this is the time that they were describing. So from here we have to reconnect, unify, and stand together as one nation again.

Instill these [values] in your children, your young men, because they carry the future. The young women they carry the water, the light in our lives. When I bring out my firestick, we have a firestick, the women holds that because she’s the cook. She makes the decision in the home. She carries the life, she prepares the food. The men, the job is outside the home. You bring food, you provide for the family. Don’t let your young men forget that. With them [the young Gwich’in men] talking here yesterday, talking about their hunting ways, I felt proud, I felt happy. It felt good to me that these young men are able to bring in food. So that is good, that is very good. If you have sage, if you have sweetgrass, if you have tobacco: give it to that water. The water is dying, don’t let it die. That’s a challenge to us. It goes with all the life that is here, the food. It goes with that. Take care of it. Have faith, have prayer.

In my community you know so many people look down on us but we’re very proud because we hung on to what we have and we continue. We look in the fire, we know what’s gonna happen. We look in the sky it tells us what is gonna happen. I was in Point Hope ten years ago for a presentation to talk to the relatives there about development. That’s when shale oil was trying to come in. I had to talk about the impacts of that. It wasn’t good. But then after I went home, sometime later, I had this dream that the white bear told me, ‘help me.’ He says this white ice, snow, they’re gonna be white sand. They’re not gonna be real anymore. So that’s today, a decade later. And I feel for them, I cry for them because it’s so sad what they’re doing to us. They’re turning the whole thing upside down for us, for our life. But hardship isn’t new for us Native people. You know? After so many years of being so-called “discovered” some of us still don’t have running water. Some of us still have dirt floors,
some of us still have to build fire to cook and stay warm. I am one of those. We need to survive. And our survival involves the Mother Earth, the air, the sun and we have to work through those forces for our food security, we’re just trying to survive.

I do support wherever people are trying to survive according to their culture and according to their traditional way of life. I support that and that’s what brought me here to the Arctic, to the Fort Yukon community, for this Summit. To stand in solidarity with the people and to help them be strong in their opposition to these developments because it’s throwing everything off course. Fossil fuel development is destroying the Earth and we as humans need to stand up to these policy makers and make them change, make them reverse their ways of living and find other solutions to exist because it’s not fair to the future generations, it’s not fair to the whole environmental life besides humans, including trees, plants, animals, things that live in the oceans, things that live in the waters. It’s not fair to all the life that is around us for a few people that want endless money. Money is not going to buy anything back. It’s not going to bring the natural world back. But we must stop them.”

“I grow food and so I know about food, and last summer when the corn growers grew their corn there was not much corn. They grew really tall but there was no fruit on a lot of them and then a lot of the seeds that we planted in the ground they came out but there were no fruits on them so then what little flowers there were we had to hand pollinate. It just indicates there’s less bees, less pollinators, that’s the indicator for me. And then the flowering is not only in May which was natural in the past but now it flowers also in September so two times it flowers now. So there are some changes that I see that’s happening in my immediate community.

“Let us find ways to help each other.”
MAYDA GARCIA
San Antonio, TX
Society of Native Nations

“First and foremost I want to thank the spirits of this land, the ancestors, the Gwich’in, the Creator of this beautiful land and all it’s given us. My name is Mayda Garcia, I’m Tewa and Chumash and I also have ancestors in Ocotlan and Pocitlan, Mexico. I’m a cofounder of Society of Native Nations. Society of Native Nations is an organization that’s made of many tribal communities and we’ve come together to help support and help both the northern and southern Tribes, to face the different issues. That’s everything from educational, environmentalism, appropriation, it’s like, it’s nonstop. I mean everyone here, we’re fighting climate change. And thank you for the children! Because they are my heart, and this is one of the first times I’m away from my little one and I miss her. [] I’ve been to many summits, conferences, protests, my children are always with me, so it really feels weird not to have my little ones on my back. And I’m usually in hallways when I go to these conferences, I know it’s such a major thing to put together. But a lot of us are moms! And moms have kids. And it’s not so easy for us to go, so I’m usually in the hallways peeking in to hear what I can hear [] There’s a lot out there we need to share. If we start when [the youth] are little, and we start making it a part of just the way it is, that we need to protect the Earth, we need to save our animals. [] So let’s take care of the little ones, and I’m gonna end with a song we used to sing to the trees. We used to sing the willow song, we’d go out and tell the trees ‘please don’t leave, cause we need you’.

ARTHUR REDCLOUD
San Antonio, TX
Society of Native Nations

“I felt like I was given a gift just to be invited by Bernadette to come and speak here. It’s been overwhelming to come and just learn about the Chiefs of today and the Chiefs of tomorrow but also to even meet the youngest one as well is very encouraging, to see them step up to a position, whether or not they’re prepared for it, but they’re walking into it regardless. So, I’m Arthur Redcloud, Lakota and Navajo, I’m a board member of Society of Native Nations. I’ve been with the Society of
Native Nations for the last two years, three years now. Like Bernadette said, and Mayda said, we’ve been fighting pipelines as well as cultural appropriation, oil and gas. It’s such a great thing to see so many faces with so many directions with so many hearts that you carry. You know, it’s such an amazing thing to just come into a circle instead of just a building of squares. How we’re all equal but we still carry the same burden, the same wars, the same cries, the same sacrifice. It’s a great thing to see everybody here, for the reason that they’re here for.

It does matter what we do. At the same time, I mean, I had to go earlier down there to the river, and see how much medicine it has. I just wanted to come up here to say thank you for allowing me to speak, and to all the Chiefs for your invitation, it’s been an honor. I hope to come back again, but it’s been such a really rare experience to, it’s one thing to come to Alaska but to come to the Indigenous and powerful sacred lands of the ancestors. I wonder now, even in the circle of what they’re saying and what they’re hearing, and to hear everybody speak from their heart and to hear everyone speak from their minds, and to be moved by the spirit and to see someone like Bernadette, I mean she’s doing an amazing job to lead everybody. We’ll join her continuously even in Texas as she goes there, but she’s part of Society now too, I mean she’s family, she’s our sister our relative, whatever hurts her hurts us as well and we’ll do anything to protect her. At the same time, just listening to everybody’s stories, everybody talks about how we’re affected and how to change that, it’s just a great thing to see that we are moving things. I know you don’t see it hardly, but I think we’re affecting them where we can. Thank you and thanks to the Creator and all the Chiefs before you as well as after you.”

JOEL CLEMENT

Maine, USA
Arctic Initiative Senior Fellow
Harvard University Belfer Center

It was an honor to attend the first Arctic Indigenous Climate Summit to listen, learn, and provide background on the current state of global climate change from the western science perspective. We were able to answer many questions about what was happening, at what pace, and what to expect, but frankly the opportunity to hear from Gwich’in hunters and Elders about what they were seeing happen on the ground was a rare opportunity. It’s well known that the Gwich’in have an extraordinary depth of understanding and connection to ecology, land, and one another, so it was enriching beyond expectations to learn from them.

I hope, once the pandemic has passed, that the Climate Summit can be a regular or annual event so that the world can better understand the types of changes the Gwich’in and others are witnessing on the ground in the Arctic. Indigenous knowledge is essential if we – both indigenous and non – hope to build resilience to the transformations happening in the Arctic and around the world.
I was invited to share a western science perspective of climate change in the Arctic, however I know I learned far more from the other people who spoke at the Summit. I feel profound gratitude for the gift of attending and for the opportunity to learn from the Indigenous speakers and other attendees who shared their deep knowledge of—and connection to—the rivers, the land, the changing ecosystems. Protecting the Coastal Plain of the Arctic Refuge from development is crucial to support biodiversity and healthy ecosystems for the future, as a human rights issue, to mitigate the effects of climate change, and to allow space for animals and humans to adapt to climate change in the Arctic. It was a true honor to travel to Gwich’yaa Zhee to be a part of the Arctic Indigenous Climate Summit and to stand in solidarity with the Gwich’in Nation and other Indigenous people of Interior and northern Alaska in opposition to development in the Arctic Refuge.
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ENVIRONMENTAL DATA SOURCES

Air temperature records: USA


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Arctic climate variables


River breakup dates


River temperatures
